UNITED STATES MARINE CORPS
MARINE CORPS SYSTEMS COMMAND
2200 LESTER ST
QUANTICO, VIRGINIA 22134-6050

IN REPLY REFER TO:

5100.29
OOT
01 AUG 2003

MARINE CORPS SYSTEMS COMMAND ORDER 5100.29

From: Commanding General
To: Distribution

Subj: SAFE AND READY CERTIFICATION AND SAFETY RELEASES

Ref: (a) MCO 5100.29, Marine Corps Safety Program
(b) SECNAVINST 5000.2B, Implementation of Mandatory Procedures for Major and Non-Major Defense Acquisition Programs and Major and Non-Major Information Technology Acquisition Programs
(c) MIL-STD-882D, DoD Standard Practice for System Safety
(d) MCO 3500.27A, OPERATIONAL RISK MANAGEMENT (ORM)
(e) USMC Developmental Test & Evaluation (DT&E) Handbook

Encl: (1) Safe and Ready Process Flowchart
(2) Assessment of Safety for Operational Test
(3) Safety Summary
(4) Safe and Ready Certification Letter
(5) Certification of Readiness for Operational Test
(6) Safety Release Template

1. Situation. Reference (a) establishes safety as an inherent responsibility of command within the Marine Corps and provides implementing instructions for Marine Corps Systems Command (MARCORSYSCOM). Safety Releases are the mechanism for documenting safety requirements for participation of MARCORSYSCOM employees in tests, demonstrations and events that are not part of the normal everyday execution of their duties. Reference (b) requires the Commanding General (CG), MARCORSYSCOM to certify to the Assistant Commandant of the Marine Corps (ACMC) that equipment is "Safe and Ready" prior to Operational Test and Evaluation (OT&E) conducted by Marine Corps Operational Test and Evaluation Activity (MCOTEA).

In addition, MARCORSYSCOM, as a materiel developer, uses the Safety Release, Safe and Ready Certification, and

fielding decision processes, as appropriate for the stage of the Program, to promote the safety of Marine Corps personnel who use or test our equipment.

2. Cancellation. MARCORSYSCOM Acquisition Policy Letter #5-02.

3. Mission. To ensure that Marine Corps personnel in all phases of testing, demonstrating and fielding our systems are safe, that our systems are sufficiently developed and proven ready prior to MCOTEA's conduct of OT&E, and to ensure our employees have a safe environment when performing duties outside their normal day to day routine.

4. Execution

a. Commanders Intent and Concept of Operations

(1) Commander's Intent. The CG MARCORSYSCOM shall certify to the ACMC that systems are "safe and ready" prior to MCOTEA's conduct of OT&E. The appropriate authority discussed below shall issue a Safety Release prior to the conduct of every other test, demonstration or event that involves either MARCORSYSCOM military or civilian Marines; or any Marine Corps personnel using non-fielded MARCORSYSCOM equipment. The fielding decision constitutes the Safety Release for fielding and no separate release is required.

(2) Concept of Operations. Program Managers (PM's) shall establish aggressive system safety efforts directed by reference (c) and a system engineering process for each system under their cognizance. Prior to any test, training, demonstration or event of a system under their cognizance, PM's shall perform a safety assessment and develop any mitigating measures that are required to conduct the event safely. Product Group Directors (PGD's) and Independent PM's will not send items to MCOTEA for Initial OT&E or Follow-on OT&E until the systems engineering and developmental test (DT) processes have proven that the item is ready. Operational Risk Management (ORM) will be conducted before every activity involving MARCORSYSCOM military or civilian personnel as directed by reference (d).

(a) Safe and Ready Process. Enclosure (1) describes the command safe and ready process for OT&E

conducted by MCOTEA, defined in reference (e). The PG or Independent PM shall take the lead in executing the safe and ready process, and shall provide the Safety Officer (00T), the Assistant Commander for Acquisition Logistics (ACAL) and the Assistant Commander for Engineering (ACENG) with sufficient information and time for their independent reviews. The PGD or the Independent PM shall provide the safety package, which contains all pertinent information regarding the system safety program, including the most recent safety assessment and the recommended operational test safety constraints to 00T for review. Enclosure (2) is the recommended format for the safety package. 00T shall complete the Safety Summary, enclosure (3), and provide it to the PGD or Independent PM. The PGD or the Independent PM shall prepare the Safe and Ready Certification Letter, enclosure (4), incorporating the Safety Summary as an enclosure. The PG or the Independent PM shall staff the Safe and Ready Certification letter along with the readiness package, enclosure (5), to the ACAL and ACENG for their recomendation and submission to the CG for safe and ready certification. A copy of the signed Safe and Ready Certification letter shall be provided to 00T. The Safe and Ready Certification letter will not be valid for more than 18 months. For Operational Assessments (OA's), the ready review may be omitted from this certification process.

(b) Safety Release. Enclosure (6) is the format for Safety Releases. The types of Safety Releases are defined below.

(1) Operational Environment Event Safety Release. Any event conducted in an operational environment or using non-MARCORSYSCOM military or civilian Marines, that is not conducted by MCOTEA is considered an Operational Environment Event (OEE). The exception to this rule is testing by military or civilian Marines permanently assigned to a testing activity conducting a test under the direct control of that testing activity, which is considered a DT test and is discussed below. Early Operational Assessment (EOA), Field User Evaluation (FUE), Limited User Test (LUT) are all potential examples of OEE's. Emergency, one-time and other non-traditional fielding also falls under this definition as the safety information known and hazards to operators are similar. OEE Safety Releases will not be valid for more than 18 months.

(2) Developmental Test Safety Release. Reference (e) defines a DT. For the purposes of this order DT is further defined to specifically exclude OEE's. The DT definition includes events where MARCORSYSCOM military or civilian personnel are participating only when conducted at the developer/manufacturer facilities or designated government test activities. DT Safety Releases will not be valid for more than 3 months.

(3) Demonstrations and Other Events Safety Release. Demonstrations and other events are activities sponsored by MARCORSYSCOM or involve MARCORSYSCOM military or civilian personnel, that either fall outside the acquisition process or fail to meet the definitions for OEE or DT above. For demonstrations and other events, the ORM process, reference (d) shall be followed. These Safety Releases will not be valid for more than one month.

b. Subordinate Element Mission

(1) Product Group Directors and Independent PM's

(a) PGD's and Independent PM's shall execute their responsibilities within the safe and ready process defined above.

(b) PGD's or Independent PM's when acting as the Milestone Decision Authority (MDA) are the approval authority for Safety Releases for OEE's. The PGD or Independent PM shall obtain and consider the safety opinion of a safety expert outside the PM managing the product prior to granting approval. This authority may be further delegated only to safety professionals. Copies of the Safety Releases shall be provided to 00T.

(c) PGD's or Independent PM's when acting as the MDA shall obtain and consider 00T's safety opinion prior to any emergency, one-time or other non-traditional fielding.

(d) PGD's and Independent PM's are the approval authority for all Safety Releases for developmental tests. Copies of the Safety Releases shall be provided to 00T.

(e) PGD's and Independent PM's are the approval authority of Safety Releases for demonstrations and other

events. This authority will not be further delegated. Copies of the Safety Releases shall be maintained on file and provided to 00T.

(2) Program Managers

(a) PM's shall establish an aggressive system safety program consistent with reference (c) for each system under their cognizance.

(b) PM's shall develop mitigation procedures to ensure safe execution of all tests and evaluations and provide their recommendations to the approval authority.

(3) Safety Officer

(a) The Safety Officer (00T) shall independently assess the safety of all systems prior to OT&E conducted by MCOTEA, providing the safety summary to the CG via the PGD or Independent PM.

(b) 00T shall maintain a database of all MARCORSYSCOM Safety Releases and safe and ready certification letters.

(c) When the CG MARCORSYSCOM is the MDA or the MDA is external to MARCORSYSCOM, 00T is the approval authority for Safety Releases for OEE's.

(d) Provide an independent assessment of safety to the MDA for all emergency, one-time and other non-traditional fielding.

(e) 00T is the approval authority of Safety Releases for demonstrations and other events for personnel who are not in a PG or Independent PM.

(f) Audit the Safety Release process and advise the CG yearly on its effectiveness.

(g) 00T shall take the lead in moving safety documentation through the administrative process if requested.

(4) Assistant Commander for Engineering

(a) Assess system readiness prior to IOT&E and FOT&E and provide his recommendation for the Safe and Ready Certification letter to the CG MARCORSYSCOM.

(b) Develop and maintain the Readiness Guidebook.

(5) Assistant Commander for Acquisition Logistics. Assess system readiness prior to IOT&E and FOT&E and provide his recommendation on the Safe and Ready Certification letter to the CG MARCORSYSCOM.

5. Administration and Logistics. This directive has been published electronically and can be accessed online via the MARCORSYSCOM at https://www.tiger.marcorsyscom.usmc.mil/.

6. Command and Signal

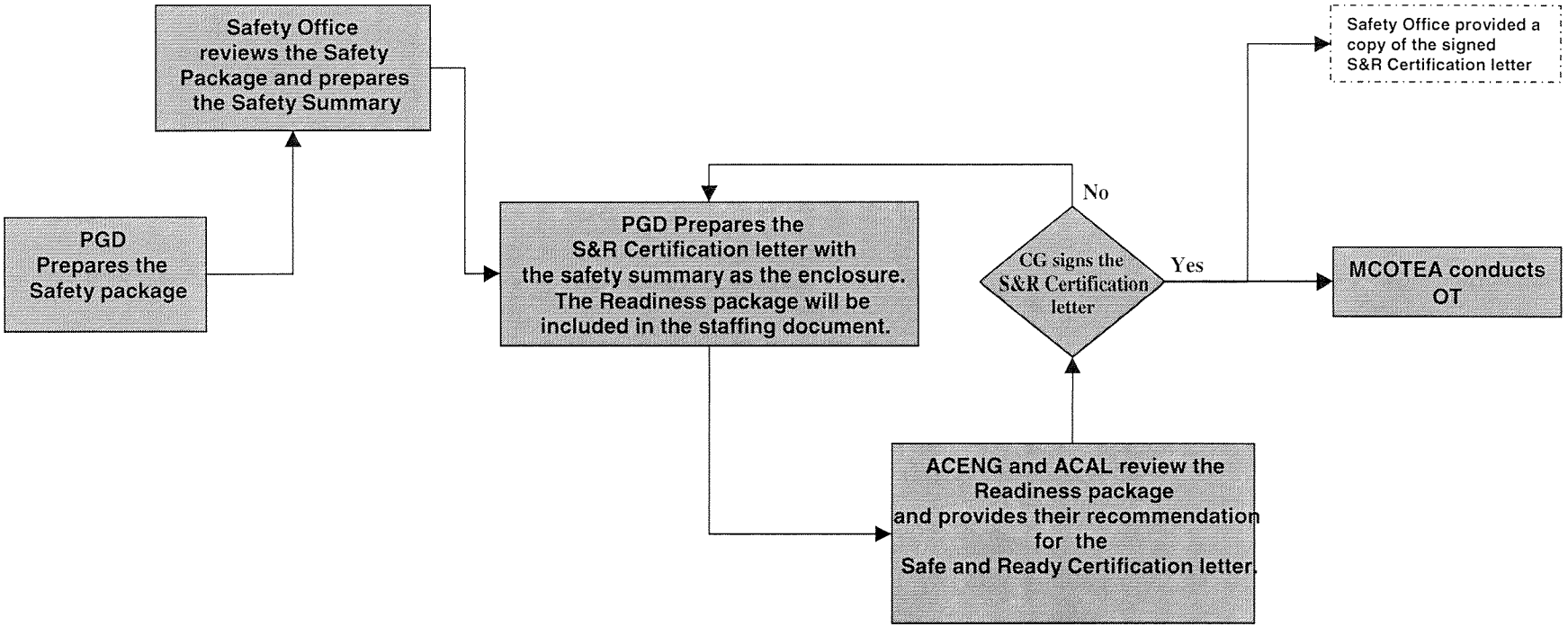
a. Command. This directive is not applicable to the operating forces, supporting establishment, or the Reserves.

b. Signal. Effective upon date of signature.

WILLIAM D. CATTO

Distribution: A, TIGER Library

Safe and Ready Process



SSIC
Originator Code/Ser No
Date

MEMORANDUM

From: Director, Product Group (PG-XX)
To: Safety Officer

Subj: [Name of system] ASSESSMENT OF SAFETY FOR OPERATIONAL TEST

Ref: (a) MARCORSYSCOM ORDER 5100.XX
(b) Test and Evaluation Master Plan (TEMP) [date]

Encl: (1) Include any documents needed to support this. Examples might be:
(2) Safety Assessment Report
(3) Hazard Tracking Database (or sheets)
(4) Safety related DT Test Results
(5) Operators Manual
(6) Training Manual
(7) WSESRB Correspondence and Recommendations
(8) Lithium Battery Documentation
(9) Manufacturer's Warranties and Certifications

1. Per reference (a), the [name of system] is safe for [phase]OT&E as outlined in reference (b), provided the requirements in paragraphs 2 and 3 are followed. This assessment was based on previous test and analysis as specified in enclosures (1) through (9).

2. The following are the restrictions which must be adhered to during the [phase]OT&E for the operation to be conducted safely:

a. List all restrictions that must be followed. Usually, this section and paragraph 3 will be used by 00T as the basis for the safety summary.

b. Only trained MOS XXX Marines shall be allowed to operate the equipment.

c. No maintenance internal to the XXX shall be performed.

d. No personnel shall be exposed to more than 5(five) shots per 24 hour period.

e. All standard range safety precautions shall be observed.

f. All personnel within 10m of the firing location shall wear single hearing protection.

g. All warnings and cautions in both the Training Manual and the Operators Manual for the XXX shall be observed.

3. The following safety items should be highlighted to all participant prior to the [phase]OT&E:

a. List any warnings, cautionary items, or equipment necessary for the safe operation of the system. Including, but not limited to environmental conditions, personnel requirements, training requirements, and equipment requirements. These will usually also be provided elsewhere (manuals, safety assessment report, etc.) but are included here for emphasis.

b. For example; no operator should touch the high voltage circuit without locking and tagging out the operators station.

//signed//
PGD XXXX

date

SAFETY SUMMARY OF [Name of system] FOR [phase] OPERATIONAL TEST and EVALUATION

The [name of system] is safe for [phase]OT&E as outlined in reference provided the requirements below are followed.

1. The following are the restrictions which must be adhered to during the [phase]OT&E for the operation to be conducted safety:

a. List all restrictions that must be followed. Usually, this section and paragraph 3 will be constructed largely from the safety assessment memorandum.

b. Only trained MOS XXX Marines shall be allowed to operate the equipment.

c. No maintenance internal to the XXX shall be performed.

d. No personnel shall be exposed to more than 5(five) shots per 24 hour period.

e. All standard range safety precautions shall be observed.

f. All personnel within 10m of the firing location shall wear single hearing protection.

g. All warnings and cautions in both the Training Manual and the Operators Manual for the XXX shall be observed.

h. All the medium hazards listed in attachment (1) shall be briefed to the operators and maintainers during initial training.

2. The following safety items should be highlighted to all participant prior to the [phase]OT&E:

a. List any warnings, cautionary items, or equipment necessary for the safe operation of the system. Including, but not limited to environmental conditions, personnel requirements, training requirements, and equipment

requirements. These will usually also be provided elsewhere (manuals, safety assessment report, etc.) but are included here for emphasis.

b. For example, no operator should touch the high voltage circuit without locking and tagging out the operators station.

_____
Command Safety Officer

Attachments
(1) Safety Assessment Report of [date]

5100

Subj: [Name of system] [phase]OPERATIONAL TEST AND EVALUATION SAFETY CERTIFICATION

Encl: (1) [Name of system] Safety Summary of [date]

Ref: (a) SECNAVINST 5000.2_, Implementation of Mandatory Procedures for Major and Non-Major Defense Acquisition Programs and Major and Non-Major Information Technology Acquisition Programs
(b) MARCORSYSCOM Order 5100.xxx

1. Per references (a) and (b), I certify that the [name of system] is safe and ready for [phase] operational test and evaluation. The requirements provided in enclosure (1) must be followed to conduct this test safely. This safety and ready certification is valid until 30 June 03 [not to exceed 180 calandar days].

2. The program office and Marine Corps Systems Command point of contact is xxxxxx. They must be immediately notified of any significant mishaps.

CG MARCORSYSCOM

Copy:
00T

Readiness Staffing Package OT&E Template

The following letter is an example format when certifying a system's readiness for OT&E.

5100
Code/Ser No
Date

MEMORANDUM

From: Director, Product Group (PG-XX)
To: Commanding General, Marine Corps System Command
CC: MARCORSYSCOM(Safety Office 00T)

Subj: [Name of system] CERTIFICATION OF READINESS FOR OPERATIONAL TEST

Ref: (a) MARCORSYSCOM ORDER 5100.XX
(b) Test and Evaluation Master Plan (TEMP) (date)

Encl: (1) MARCORSYSCOM Criteria for Certification of Readiness

1. Per reference (a) this letter certifies that the (name of system) is ready for OT-[phase] as outlined in reference (b), which was approved by (SYSCOM/PGD) on (date). The assessment was based on a review of certification criteria for readiness as specified in the enclosure.
(If required, waivers will be requested in Paragraph 2.)

2. The following waivers are requested:

(a) (Limitations that waived criteria will be placed on upcoming operational testing.)

(b) (State when waived criteria will be met.)

(Repeat above format for each criteria requested for waiver.)

//signed//
PGD XXXXX

MARCORSYSCOM CRITERIA FOR CERTIFICATION OF READINESS

The Operational Test (OT) readiness review is conducted prior to each OT to allow the developer to assess the overall readiness for test of the system. The certification of readiness determines the readiness of the system, support packages, instrumentation, test planning, evaluation planning, and so forth, to support the OT. For detailed guidance refer to the Readiness Guidebook posted on TIGER KNOWLEDGE center for SYSTEMS ENGINEERING.

I. Document Status. The following list of programmatic documents as applicable must be tailored to assess the readiness for OT.

Green = issue Met, no problem areas.
Yellow = issue Met with exception, minor problem areas or uncertain areas exist.
Red = issue Not Met, significant problem areas exist.

Note: If you provided "NO" or "N/A" answer to any question, please provide rationale or source for decision.

ITEM	REMARK Approved/Date	IMPACT Green/Yellow/Red
ADM- Latest		
TEMP		
C4ISP, SSAA/ATO		
CMP-FCA/CSAR		
PERFORMANCE RISK ASSESSMENT		
USER MANUALS		
MAINTENANCE MANUALS		
SOFTWARE MANUALS		
DT - TEST PLAN/REPORT (% COMPLETED)		
REQUIREMENTS TRACEABILITY MATRIX (RTM) % EVALUATED		
TRAINING COURSEWARE		
MANPOWER AND TRAINING PLAN		

II. System. The readiness review will determine whether the system to be operationally tested is both mature and ready for test.

a. Maturity. Verify that system has demonstrated adequate maturity during DT and should continue into OT.

The following guidelines assist in determining the system maturity.

CRITERIA	SATISFIED YES/NO*	COMMENTS/MITIGATION Green/Yellow/Red
MISSION PERFORMANCE		
RELIABILITY		
MAINTAINABILITY		
COMPATIBILITY		
INTEROPERABILITY		
HUMAN FACTORS ENG		
LOGISTICAL SUPPORTABILITY		
MOBILITY/TRANSPORTABILITY		
SURVIVABILITY		
SPECTRUM MANAGEMENT		
ELECTROMAGNETIC ENVIRONMENATL EFFECTS-E3		
CLIMATIC EXTREMES		
SOFTWARE ISSUES		

b. Readiness. System readiness is determining whether all its germane parts necessary for an adequate OT are in place, and it is safe to use.

CRITERIA	SATISFIED YES/NO	COMMENTS/MITIGATION Green/Yellow/Red
Training Courseware addresses all system safety requirements, cautions and warnings.		
System Manuals are prepared, available, and validated.		
Class IX representative of those required for normal maintenance is available for use during OT.		
Test, Measurement, and Diagnostic Equipment is available for use during OT.		
Other support equipment required for normal operation is available for use during OT. Examples include air conditioners, vehicles, power generators, and MHE.		
System configuration provided for OT has the same configuration as the expected production system (specific list of all differences with estimated impact on Performance is required).		
Identify plan for subsequent testing of deficiencies known to exist at time of OT.		
Adequate funding to support OT		

is available		
Adequate number of operators/ maintainers trained for OT?		

III. First endorsement by Assistant Commander, Engineering (ACENG) and the Assistant Commander, Acquisition Logistics (ACAL).

_____

Assistant Commander,
Engineering (ACENG)

_____

Assistant Commander,
Acquisition Logistics (ACAL)

Safety Release Template

SSIC
Originator Code/Ser No
Date

From: Director, Product Group (PG-XX)
To: Commander [Of the testing activity] or supervisor of the personnel involved in the test

Subj: SAFETY RELEASE FOR XXX EVENT OF XXX SYSTEM

Ref: (a) Include all necessary references.
Examples might be:
(b) MCO 3500.27_, OPERATIONAL RISK MANAGEMENT (ORM)
(c) Operators Manual
(d) Training Manual
(e) Reference any other sources needed to support this.

Encl: (1) Include any documents needed to support this.
Examples might be:
(2) Safety Assessment Report

1. A conditional MARCORSYSCOM Safety Release for the XXX System for use by XXX personnel during the XXX Event at XXX location is granted for the period [insert time window here].

2. Insert brief system or event description from system documents or other location

3. This safety release is conditionally issued for the XXX of the XXX System. The MARCORSYSCOM representative shall have the authority to determine whether or not to proceed with the XXX based on environmental and situational considerations. Furthermore, this release is subject to the following restrictions and precautions.

a. List any warnings, cautionary items, or equipment necessary for the safe operation of the system. Including, but not limited to environmental conditions, personnel requirements, training requirements, equipment requirements. Other examples might be:

b. Only trained MOS XXX Marines shall be allowed to operate the equipment.

c. No maintenance internal to the XXX shall be performed.

d. No personnel shall be exposed to more than 5(five) shots per 24 hour period.

e. All standard range safety precautions shall be observed.

f. All personnel within 10m of the firing location shall wear single hearing protection.

g. All warnings and cautions in both the Training Manual and the Operators Manual for the XXX shall be observed.

4. Designated trained XXX personnel are authorized to operate the XXX System for the period of [insert time window here] in accordance with their training, [list applicable references] and paragraph 3.

5. The MARCORSYSCOM point of contact and engineering representative is XXX, DSN XXX, commercial XXX.

//signed//